City of Rockville

MEMORANDUM

May 27, 2010

TO: Planning Commission

FROM: Jim Wasilak, Chief of Planning

SUBJECT: Joint worksession with Traffic and Transportation Commission

The joint worksession will address the following topics:

- Main themes of the Pedestrian Policies
- Main themes of the Complete Streets Policy
- How the Commissions can best work together and communicate

The following attachments are included as information to aid in the discussion.

Attachments

1. Pedestrian Policies
2. Complete Streets Policy

City of Rockville

Pedestrian Policies

CITY OF ROCKVILLE PEDESTRIAN POLICIES

TABLE OF CONTENTS

PURPOSE AND BACKGROUND

A community is characterized by its attitude toward pedestrians. To many, the term "pedestrian-friendly" suggests neighborliness, a variety of transportation options, and certain levels of convenience, comfort and safety. In other words, the community's accommodation of pedestrians is a reflection of its quality of life. Even with the best of attractions to offer its citizens, a community is incomplete unless one can walk to those attractions.

Nearly everyone is a pedestrian. Even for automobile and transit users, walking is a part of travel to the workplace and the market. For some, walking is a legitimate option for the entire commuting or shopping trip, reducing automobile trip generation. Increasing pedestrian options can therefore be a part of traffic demand management. Above the subsistence level, the purposes of walking can include attending community and social functions, visiting neighbors, and simple leisure-time pleasure. In a well-balanced community, the pursuit of these endeavors is not constrained by a lack of safe pedestrian facilities, or limited to those having access to the automobile. The lack of such constraints maximizes freedom of action for groups such as children, the elderly, those with disabilities, and transit users.

Walking is not just a means of travel between an origin and a destination, but it is also healthy exercise, along with related activities like jogging. Health issues will become more significant as the general population ages, and walking has been identified as being beneficial to the maintenance of health and in the prevention and treatment of certain illnesses. From a health standpoint alone, public support for pedestrian facilities can and should be encouraged.

It cannot be said that Rockville has always been pedestrian-friendly. The City's formative years in the 1950's and 60's were spent as an automobile-oriented commuter suburb. Consistent with that "suburban" background, the attention given in those decades to pedestrian mobility was slight. With the 1970's, two energy crises and a new environmental sensitivity began to change the picture. The City's mix of employment and residents became more balanced, and the City began to focus on transportation alternatives other than the automobile. The City has since developed a greater awareness of the need to provide for pedestrian mobility-- new laws have been enacted, new standards have been set, and millions of dollars have been spent in expanding, improving, and maintaining pedestrian facilities.

The physical and policy barriers created in earlier years, however, have slowed progress and/or led to the use of compromise solutions. There has been a coincident lack of cohesion in the City's overall efforts, primarily because pedestrian considerations have so often been handled as an adjunct to some "greater" effort. Pedestrian planning and design need to be regarded more comprehensively, and their intentions accorded greater weight in the choice among competing public objectives. The Mayor and Council have recognized these needs and have directed that they be addressed through the development of a unified pedestrian policy.

SCOPE

The "unified" policy proposed herein is composed of a series of individual policy statements. Intended to be a "living" document, it is subject to change as policies are formulated, amended, or deleted. The policy statements are written mainly from the viewpoint of what the citizen can expect from the City. Each policy statement has been assigned to one of nine topical areas, with each topic introduced by a brief section of background commentary. Most of the material contained herein is not new; rather it is largely a codification of existing policies.

One of the chief criteria in the development of these policies is consistency with established City goals. These goals have been derived from the 2002 Comprehensive Master Plan, the Mayor and Council's Vision of Rockville in 2020, and the 2004 Bikeway Master Plan. The Pedestrian Policies is a formal statement of principles to guide decisions and achieve safer outcomes for pedestrians. Sources of specific legal requirements are provided in legal documents such as the Rockville City Code and Maryland Vehicle Law.

DEFINITIONS

In this document, the words "shall," "should," and "may" imply a specific level of application for individual policies. These words are defined as follows:

SHALL - A mandatory condition. Policies so described are required to be carried out on an ongoing basis or brought to completion as soon as possible.

SHOULD - An advisory condition, typically in the pursuit of longer-term goals and frequently in recognition of restraints or other public objectives.

MAY - A permissive condition typically associated with applications that are desirable or useful in certain situations.

Wherever the word "walk" is used as a verb in this document, it is intended to refer to the movement of all those who use pedestrian facilities.

1. SIDEWALKS

Sidewalks parallel to public streets are central to any system of urban pedestrian access. The City's Subdivision Regulations (Chapter 25, Rockville City Code) and Street Construction Standards (Chapter 21, Rockville City Code) provide the legal basis for Rockville's sidewalk system. These laws require that sidewalks be constructed on both sides of the street in most new subdivisions with specific requirements for sidewalks as prescribed by the Mayor and Council. The City also installs sidewalks on its own roadway projects. On arterial streets like Wootton Parkway, practice has been to provide an extra-wide sidewalk/bike path combination on at least one side of the street.

In general, the State Highway Administration (SHA) does not provide for sidewalks, thus installation adjacent to State highways in Rockville is almost always the responsibility of the City. Since the mid-1980's, the SHA has been installing some sidewalks in conjunction with new roadway construction, but, similar to other sidewalks along State highways, maintenance remains a City responsibility.

Some streets in Rockville remain without sidewalks, particularly in older neighborhoods. Construction in these areas is made more difficult by such factors as insufficient right-of-way, poorly defined road edge, adverse grading, or private landscaping within the right-of-way. Projects can also be hampered by a lack of support from owners of properties directly adjacent to the proposed sidewalk.

Because of the large amount of missing sidewalks in the City and the costs associated with constructing sidewalks, the City has created a Sidewalk Prioritization Policy. The Rockville Sidewalk Prioritization Policy helps determine in what order the City should construct sidewalks, which is a helpful tool for including sidewalks in the Citywide Capital Improvements Program. The order, or prioritization, will be based on the total score; the sum of the utility score, a measure of predicted pedestrian trips and the traffic conditions score, a measure of the safety risks as a result of the missing sidewalk.

Sidewalks will be grouped into one of five groups, A through E, with A being the highest range of scores and E being the lowest range of scores. In addition to the missing link's total score, information about available City right-of-way, public support for the construction of the sidewalk, and the potential environmental impacts of constructing the sidewalk will be taken into consideration when determining the timeline for planning, design, and construction of the sidewalk.

As important as the expansion of the sidewalk system is the quality of maintenance for existing sidewalks. Repair or replacement of sidewalks is accomplished both by City forces and by private enterprise under annual City contract. For example, in 2008 the City committed approximately $400,000 to sidewalk repair.

A. Sidewalk Construction – General

The Rockville Sidewalk Prioritization Policy will provide primary guidance for the order in which sidewalks are constructed.

1. All sidewalks shall be a minimum of 4 feet in width, but a 5-foot wide sidewalk is preferred. To comply with SHA policies, all sidewalks adjacent to state roadways or sidewalks funded through state grants shall be a minimum of 5 feet in width. An 8-foot width is preferred in non-residential streets wherever feasible. Concrete is to be preferred in residential and business areas generally, with brick being reserved for use in areas of institutional or historical significance. Asphalt should be limited to use in combined pedestrian/bicycle facilities and for sidewalks of a temporary nature. Asphalt may also be used in place of concrete for pedestrian pathways not

adjacent to public streets (see Section 2, Pedestrian Paths) Pervious concrete should also be considered.

2. Sidewalks should be separated from the adjacent roadway by a buffer strip at least three (3) feet wide. This is especially important along high-speed, high-volume streets on which vehicle travel occurs adjacent to the curb. Separation can take the form of a grass strip, a protective berm, or a wider sidewalk section that effectively provides a buffer while also supporting traffic control devices, street lighting, and landscaping. Every feasible effort shall be made to ensure that the buffer strip design is sufficient to prevent snow plowed from the street from being placed on the sidewalk.

3. In both new and existing developments, raised pedestrian refuge areas may be provided at intersections and other street crossing points. These refuges can take the form of islands or peninsular curb extensions ("chokers"). In coordination with sidewalks, chokers are to be particularly encouraged at intersections where both vehicle and pedestrian movements are heavy and where on-street parking may be desirable. Such refuges shall be considered in accordance with supplemental warrants to be adopted by the City. Island refuges are especially encouraged in the vicinity of bus stops.

B. New Development and Road Construction

1. In new subdivisions, sidewalks shall be constructed on both sides of each street.

2. In the Town Center, sidewalks shall be provided on both sides of each street, and shall be constructed in compliance with the design criteria contained in the Town Center Urban Design Plan.

3. In conjunction with new roadway construction or major reconstruction, the City should construct sidewalks on both sides of the street.

4. Parallel to arterial streets and in other locations listed in the City's Bikeway Master Plan, the City may provide a wider hard-surface pathway to accommodate bicycles as well as pedestrians. The width of such facilities shall be at least eight (8) feet, and preferably ten (10) feet.

5. In reviewing plans for construction or reconstruction of State highways, the City should encourage the construction and/or improvement of sidewalks and other pedestrian amenities by the State, consistent with these policies.

6. The appropriate standards of the Rockville Pike Plan and the Town Center Urban Design Plan shall be followed in the sizing and buffering of sidewalks. Protective berms are to be especially encouraged as sidewalk buffers along Rockville Pike and Hungerford Drive, Rockville's busiest and most hazardous streets.

C. Existing Streets and Establishing Connectivity between Separated Neighborhoods

1. The City shall actively pursue the installation of sidewalks along existing streets without sidewalks, following the prioritization established by the City's Sidewalk Prioritization Method.

2. The SHA should be encouraged to increase its participation in the funding and construction of sidewalks within the City. In the absence of State participation, the City shall construct (or have developers construct) and maintain sidewalks along State highways.

3. New sidewalks on existing streets may be constructed at public expense on the basis of established priorities and available funding. Private funding opportunities should also be sought, especially for locations adjacent to undeveloped properties, for special-purpose projects, and to accelerate projects with low public priority. Adjacent property owners should be assessed for their specific design requests that exceed normal sidewalk standards.

4. The City shall identify impediments, obstacles, and unsafe conditions that impede connectivity between neighborhoods, activity centers, and transportation facilities, including parks, playgrounds, and bus stops, and shall consider appropriate improvements to sidewalks, lighting, signage, crosswalks, and other systems that enhance pedestrian mobility and safety. The City shall work with other governments and jurisdictions to improve pedestrian connectivity from Rockville to adjacent areas, especially as a part of overall traffic mitigation efforts and in conjunction with developments in Transit-Oriented Areas (TOAs). TOAs are areas where viable non-auto options exist and include areas within $7/10^{ths}$ of a mile accessible walking distance from existing and programmed Metro stations and fixed-guideway transit stations on dedicated transit rights-of-way and may also include major access routes to these areas.

D. Reconstruction, Repair, and Maintenance

1. Reconstruction and repair of all public sidewalks may be accomplished at the City's expense, with the exception of the few segments of sidewalk owned and maintained by the SHA. The cycle of reconstruction and the need for repairs shall be determined by the Department of Public Works.

2. The City shall identify and take action to relocate or remove obstructions to sidewalk accessibility, including but not limited to utility poles, fire hydrants, newspaper vending machines, mailboxes, and overhanging tree branches. Standards for accessibility shall be in accordance with the Americans with Disabilities Act (ADA).

3. Owners of abutting properties shall be responsible for snow removal, grass strip cutting, weed control and other sidewalk maintenance of a less capital-intensive nature. For "reverse frontage" situations, where the sidewalk is generally inaccessible from the adjacent property, the City may provide maintenance when and where resources permit. All sidewalks fronting City owned properties shall be maintained by the City.

2. PEDESTRIAN PATHS

Pedestrian paths refer to all public pedestrian facilities other than sidewalks. Examples include public pathways within exclusive rights-of-way or easements, vehicle-free pedestrian zones, and pedestrian grade separations. The category could also be extended to include pathways through parks or other public properties that serve as through pedestrian and bicycle routes.

1. In the design of subdivisions, and major commercial developments, public easements and pathways shall be encouraged through and between properties to shorten walking paths for pedestrians generated within the site, as well as for those desiring to pass through the site. The need to provide convenient pedestrian access should be balanced against the occasional "nuisance value" of these pathways to the particular site.

2. Pathways shall be hard-surfaced, paved in either concrete or asphalt. The latter material is preferred if joint use with bicycle traffic is intended. Brick or other hard-surface treatment may be used to maintain aesthetic compatibility with the developed site.

3. Where pedestrian paths traverse private property, the owners should be encouraged to provide amenities such as lighting and landscaping that enhance the safety, utility, and attractiveness of these walkways.

4. Further opportunities to provide vehicle-free zones should be explored, particularly within the Town Center.

5. Further opportunities to provide bridges and underpasses for pedestrians should be explored and should be identified both in the Master Plan and in major development proposals.

6. Within the Town Center, design and operational features favoring safe and convenient pedestrian travel at street level shall be encouraged. Complementary grade-separated facilities, however, should be considered to eliminate conflicts for pedestrians crossing major roadways such as Hungerford Drive (MD Route 355).

7. Walking surfaces of pedestrian grade separations should be slip-resistant, and should continue to exhibit adequate friction characteristics when wet.

8. Commercial buildings shall be connected to public sidewalks through pedestrian paths.

3. ACCESSIBILITY

A long-standing City objective has been to make all street crossings accessible to those with disabilities. This is accomplished by providing curb ramps at street corners and other designated crossing points. A secondary rationale for providing curb ramps is improving accessibility and safety for those walking with carts, baby strollers and the like.

The Americans with Disabilities Act (ADA) has provided an additional impetus for improving accessibility. Not only does the ADA have requirements for curb ramp improvements but also suggests new areas for improved disabled accessibility, such as at bus stops and provision for barrier-free driveway apron designs.

1. Curb ramps meeting ADA requirements (specifically, the Uniform Federal Accessibility Standards (UFAS)) shall be constructed to provide access to every legally defined crosswalk, both marked and unmarked.

2. Curb ramps shall be installed in conjunction with sidewalk construction in all new land developments and public roadway projects.

3. City standards for bus stop pads and barrier-free driveway aprons shall be developed, employed, and updated periodically to meet the most recent ADA requirements.

4. The City should construct wheelchair-accessible pads at bus stops, eliminate barriers at driveways, and replace older curb ramps not meeting UFAS standards. Curb ramps with detectable warning devices conforming to the Americans with Disabilities Act Accessibility Guidelines (ADAAG) shall be installed.

5. Highest priority in City programs for curb ramps (both standard and enhanced), bus stop pads, and level driveway aprons should be given to specific requests from the disabled community.

6. Traffic signal pushbuttons and pedestrian informational signs shall be placed to be readily accessible to the disabled. Where appropriate, audible pedestrian signals are encouraged.

4. DEVELOPMENT DESIGN

While pedestrian circulation has usually been considered in the internal planning of residential neighborhoods and business areas like the Town Center, there has been a tendency to view the pedestrian aspects of new developments in isolation. In automobile-oriented commercial areas like research parks, pedestrian considerations have been neglected more often than not. As a result, a large number of discontinuities have developed in the City's pedestrian network. New

development of all kinds should be viewed as an opportunity to enhance the extent and continuity of the City's pedestrian facilities. New buildings and redevelopment should be pedestrian oriented.

1. In considering new commercial development or redevelopment, the City shall require that sidewalks be constructed parallel to all streets in accordance with (as applicable) the Rockville City Code, the Town Center Urban Design Plan, the Rockville Pike Plan, and these Pedestrian Policies.

2. Proprietors should be encouraged to provide facilities that enhance pedestrian circulation and accessibility on previously developed sites. The City's encouragement of such on-site improvements should be well publicized in the business community.

3. All commercial buildings, as well as public facilities not located directly on streets, shall be linked to the public sidewalk network with conveniently placed and reasonably direct pedestrian facilities. Pedestrians shall not be required to walk within driveways or parking aisles to reach external streets and sidewalks.

4. Connecting walkways and easements between adjacent commercial properties and residential developments are encouraged and should be provided.

5. For large office and retail developments located adjacent to major streets (or other potential impediments to pedestrian movement), opportunities to provide grade-separated pedestrian facilities should be explored and, if possible, implemented. Such opportunities need not be specifically identified in the Master Plan.

6. Pedestrian access within all development sites and to all buildings shall comply with ADA requirements.

7. The need to assure acceptable pedestrian crossing times at key intersections shall be considered in traffic impact studies for new developments.

8. For major developments, pedestrian demands should be quantitatively modeled to help determine the optimal location and size of pedestrian facilities. Such analyses would examine the mutual impact between pedestrian and vehicular flows.

5. CROSSWALKS

Maryland Law defines a crosswalk as any marked crossing or that part of a roadway intersection that is the prolongation or connection of sidewalks, whether marked or unmarked. Under this definition, a great majority of the City's crosswalks are unmarked. While marking all crosswalks is both unnecessary and cost-prohibitive, there should be a consistent method of determining crosswalks to be marked and available resources to install and maintain them.

1. Crosswalks shall be marked within school zones, at all signalized intersections, adjacent to Metro stations, and at all locations with at least a moderate concentration of pedestrian activity, especially in commercial areas.

2. A marked crosswalk should be designated by the presence of two parallel white lines 12" wide, spaced at least 6' apart.

3. The standard width of marked crosswalks shall be 8' in residential areas and 10' in business areas. Crosswalks of 6' width should only be used where restrained by geometrics. Crosswalks greater than 10' wide can and should be used at locations where pedestrian demand is heavy.

4. Away from intersections, "mid-block" crosswalks should only be designated at locations where justified by pedestrian demand and where the safety of the crosswalk location can be reasonably verified by the City. The crosswalk should be visually distinctive to a level exceeding City standards for the appropriate street class.

5. All crosswalks, especially those unprotected by signal or STOP sign control, should be monitored for sight distance obstructions. If identified, such obstructions should be removed.

6. Crosswalks shall be distinctively marked at the following locations:

   a. Streets where the speed limit is greater than 35 mph.
   b. Within school zones.
   c. Mid-block locations.
   d. Where the presence of a crosswalk may be otherwise unexpected.

7. Visually distinctive crosswalks should be used at any other location where special emphasis on the location of the crosswalk is needed.

8. For higher classifications of streets with heavier traffic, highly durable materials should be used to ensure the sustained visibility and long service life of crosswalk markings.

9. In the acquisition of durable crosswalk materials, the City should seek out and specify materials that minimize polishing and the slippery surface that can result. This consideration is especially important for visually distinctive crosswalks.

10. Crosswalks at school zones, near metro stations, or other locations with heavy pedestrian activities should be marked with "Stop for Pedestrians" paddle signs in accordance with supplemental warrants to be adopted by the City.

6. TRAFFIC SIGNALS AND SIGNS

City owned-traffic signals have been equipped with an appropriate complement of pedestrian signals and many have pedestrian countdown signal heads at signalized intersections.

Pedestrian countdown signals shall be installed and maintained at all signalized crosswalks that: a.) cross the "main street" signal movement, and b.) where pedestrian movements potentially conflict with an exclusive (green arrow) turning movement.

2. Accessible Pedestrian Signals (APS) should be considered for all new and modified traffic signals where warranted by the Maryland MUTCD.

3. At individual locations, pedestrian signals may also be desirable for crossing "side" streets, where there is no conflict with exclusive turn movements.

4. All pedestrian signals shall be of an oversized (15") single-section design. Existing signals (12") of two-section design may continue in use until the end of their useful service lives.

5. Pedestrian signals shall be designed and maintained to be free from obstructions.

6. The City should adopt and employ warrants included in the Manual on Uniform Traffic Control Devices (MUTCD) for traffic signal justification based on pedestrian usage. Special weighting should be assigned to the elderly, the disabled, and school children.

7. At signalized intersections, the City should seek opportunities to employ exclusive pedestrian intervals during which conflicting movements are stopped, consistent with sound congestion management practice, signal coordination requirements, and intersection capacity restraints. Exclusive pedestrian intervals may be applied to single crosswalk movements only, or, to the entire intersection.

8. The standard walking speed used to determine the flashing DON'T WALK interval for pedestrian signals shall be 3.5 feet per second. Speeds as low as 2.5 feet per second should be employed at signals where a large number of elderly and/or disabled concentrate or where otherwise identified in supplemental warrants.

9. Signals should be timed taking into consideration pedestrian convenience and safety. In no case should cycle lengths of greater than 120 seconds be employed.

10. Pedestrian timing at intersections shall be considered in developmental traffic impact studies.

11. At locations where conflicts between pedestrians and turning traffic on a shared green signal are common, a sign directing motorists to "YIELD TO PEDESTRIANS WHEN TURNING" may be employed. For left turn control, this sign would

supplement the overhead "LEFT TURN YIELD ON GREEN " signs customarily used at many intersections. Choice of sign should be based on the apparent greater conflict: turning vehicles versus pedestrians, or, turning vehicles versus opposing traffic.

12. At locations where conflicts between pedestrians and right turns on red signal are common, right turns on red should be prohibited using the MUTCD standard NO TURN ON RED sign. For ease of comprehension, time-of-day NO TURN ON RED restrictions are generally discouraged, but can be used with productive effect at locations where pedestrian demand is intermittent.

13. Where employed, traffic signal pushbuttons shall be conspicuously located and readily accessible to all pedestrians, including the disabled. Pushbuttons should be designed with minimum resistance to activation, and therefore, be placed such that pedestrians can activate pushbuttons without leaving the sidewalk or sidewalk ramp.

14. At locations with consistently heavy pedestrian demand, automatic activation ("recall") of pedestrian signals should be employed, thereby eliminating the need for pushbuttons.

15. At every traffic signal, with or without pushbuttons, educational signs demonstrating the proper use of pedestrian signals shall be installed and maintained.

16. School crossing signs complying with the MUTCD shall be posted at every marked crosswalk in a school zone not otherwise controlled by a traffic signal or STOP sign.

17. Pedestrian Crossing signs complying with the MUTCD shall be posted at all-mid-block and otherwise unexpected crosswalk locations not within school zones and not otherwise controlled by a traffic signal or a STOP sign.

18. At locations where safety experience or field observation indicate, School Crossing and Pedestrian Crossing signs may be accompanied by a special STOP FOR PEDESTRIANS IN CROSSWALK sign.

19. On streets where pedestrian demand is high but crossing activity is not or cannot be concentrated (apartment complexes, office parks), a special Pedestrian Area warning sign similar to the standard MUTCD Pedestrian Crossing sign may be employed.

20. The City shall maintain a list of innovative pedestrian safety traffic signals and signs and shall consider implementing them where appropriate. In selecting fonts for signs, the City should comply, to the extent possible, with general traffic engineering standards.

7. ENFORCEMENT AND SECURITY

Enforcement of laws, for both traffic control and public security, are an important component in sustaining safe and efficient pedestrian activity. The law also provides the means to insure that property owners keep sidewalks free from hazard and obstruction.

Revenues generated from speed camera enforcement programs shall be a source for new pedestrian safety measures and projects.

As needed, new legislation can and should be considered to further protect pedestrian interests and to remedy problems that might be identified.

1. Police agencies shall actively enforce laws that encourage the safety of pedestrians. Conflicts instigated by motorists should be vigorously addressed in accordance with Maryland and City laws. Among the most common of these conflicts are:

    a. Violation of the pedestrian's right-of-way on the "common green" at traffic signals by motorists turning left or right.

    b. Failure to yield to the pedestrian's right-of-way at unsignalized crosswalks.

    c. Failure of motorists to stop before turning right on red, and failure to detect conflicting pedestrians, especially those approaching from the motorist's right.

    d. Violation of red signals.

    e. Blockage of sidewalks by parked vehicles.

2. The Police shall also focus efforts on safety violations by pedestrians, such as proceeding against DON'T WALK signals, and discourage practices such as walking/running in the street where an adjacent sidewalk is readily available.

3. Unsafe pedestrian-based advertising and soliciting on public streets and sidewalks shall be discouraged.

4. Bicycle and scooter patrols should be applied to the enforcement of traffic laws affecting pedestrians.

5. Uniformed crossing guards should continue to provide directed traffic movement around schools during key hours.

6. Police traffic control of intersections may be exercised during periods of high pedestrian movement in business areas, during special events, and in the event of the planned or unplanned shutdown of traffic signals. As an option, traffic may be directed by trained and uniformed (or similarly designated) civilians, under Police supervision. For planned non-public events, the City shall establish and charge a fee to provide traffic control either by sworn officers or designated civilians.

7. The personal security of pedestrians, both day and night, should be a high Police priority. Stress should be placed on enclosed facilities and on sidewalks where street furniture or adjacent buildings may provide easy concealment. To further enhance pedestrian security, Neighborhood Watch and Business Watch programs should be publicized and encouraged.

8. City Police shall review all development and major construction plans to help assure that pedestrian security is maximized.

9. In the interest of providing a safe walking environment at night, lighting shall be provided on all sidewalks consistent with respective City standards for each classification of street. Non-sidewalk pedestrian facilities such as grade separations and subdivision pathways shall be illuminated to a reasonable standard where there is a particular public safety concern. In areas where there has been a pattern of endangerment to pedestrians, or where the Police believe such a potential exists, illumination greater than that suggested by the normal street lighting standards should be provided.

10. The City's Division of Inspection Services shall take an active role in insuring that snow and ice are expeditiously removed from sidewalks, and that sidewalks are kept clear of overhanging branches and other overgrowth.

11. The City's Police Department shall provide weekly pedestrian and bicycle accident reports to the Traffic and Transportation Division, including fatality reconstruction reports.

8. EDUCATION

In any aspect of traffic movement and control, programs of engineering and enforcement are ineffective without the third "E" -- education. This is especially the case where pedestrians are concerned.

1. Driver education should stress pedestrian prerogatives and pedestrians should also receive education about vehicle law concerning pedestrians. Driver education should also be targeted to non-English speakers.

2. Both in the process of and in addition to normal enforcement activities, the Police should educate motorists and pedestrians in the meaning of traffic laws and in the respective courtesy that motorists and pedestrians owe each other.

3. The City should encourage new initiatives in educational traffic signs consistent with the need to minimize sign clutter. City programs to install and maintain special educational push button signs, YIELD TO PEDESTRIANS WHEN TURNING signs, and STOP FOR PEDESTRIANS IN CROSSWALK signs should continue. SHA's sign program to reaffirm the pedestrian right-of-way in crosswalks should also be continued. Where appropriate the City should consider use of signage to educate pedestrians on the existence of pedestrian facilities and intended routes. Non-English language newspapers and radio programs should be included to reach the broadest spectrum of Rockville residents.

4. The City should solicit public input on pedestrian problems and needs at least twice a year through "Rockville Reports" and take initiatives to publicize pedestrian programs through Cable TV, the City web site and the commercial media.

5. The City should regularly publicize the names of officials who can address maintenance problems, inquiries about new or existing traffic control, and matters of enforcement.

6. City staff should initiate and participate in outreach programs to schools and civic/community groups. These programs should educate the public about pedestrian safety, inform the public about City programs, and seek input on pedestrian concerns.

7. Whenever possible, the Police should educate the walking public about appropriate measures for personal security.

8. To help ensure that pedestrian needs are recognized in all City traffic planning and operational activities; tallies of pedestrian movement shall be included in all intersection counts made either by the City or by private consultants performing City-mandated traffic impact studies.

9. PHYSICAL FITNESS AND HEALTH

Walking facilities should be promoted not only as improvements to pedestrian safety but also as facilities that can be used to improve the physical fitness and health of Rockville citizens.

1. The City should have walking and bicycling encouragement events and programs, emphasizing their benefits to physical fitness.

2. Walking promotion and encouragement programs should help to increase the use of the walking and bicycling facilities as proposed in this policy.

Complete Streets Policy

I. Purpose and Background

Complete Streets provide streets that have facilities for all users, including pedestrians, bicyclists, transit users and motorists, to the extent appropriate for the land use or the context of the street. Under the Complete Streets framework, minimizing traffic delay for private motor vehicle transportation should not be the only goal of the roadway and could be undesirable depending on the surrounding land use and needs of other roadway users.

Providing Complete Streets includes improvements in compliance with the American with Disabilities Act accessibility guidelines, such as handicapped accessible ramps at intersections with detectable warning surfaces for the visually impaired. Other characteristics of Complete Streets are features that create a multimodal-friendly environment, such as narrowing or removing traffic lanes ("lane diets" and "road diets"), adding median refuges, providing road re-striping to include bicycle lanes, reconfiguring parking, installing curb extensions ("bulb-outs"), and adding accessible pedestrian signals and countdown pedestrian signals.

Like many suburbs, some areas in Rockville were designed for automobile transportation, and lack facilities such as sidewalks, bus shelters, and bicycle lanes. With implementation of Rockville's Pedestrian Policies, Bikeway Master Plan and the Sidewalk Prioritization Policy, key improvements for pedestrians and bicyclists have been made. As demand for walking, bicycling, and transit facilities grows, safe and accessible transportation accommodations for all modes becomes even more necessary. Additional modal choices can also help in improving air quality and reducing greenhouse gas emissions by reducing private motor vehicle trips and miles traveled. In addition, Rockville is committed to serving its residents – children, elderly, and persons with disabilities – by providing safe and accessible transportation facilities in the public right-of-way.

Complete Streets concepts have already been articulated in some of Rockville's plans and policies. For instance, the Bikeway Master Plan provides guidance for bicycle lane placement, the Sidewalk Prioritization Policy provides priority for sidewalk installation, and the Pedestrian Policy addresses pedestrian network connectivity and sets forth a pedestrian walking speed to calculate crossing times. Furthermore, the Comprehensive Transportation Review requires developers to assess all multimodal features of a development site and make improvements accordingly, and the Guidelines for Neighborhood Traffic Management provides guidance for traffic calming projects. The Comprehensive Master Plan also encourages the provision of transportation facilities

that accommodate all users. The intent of Rockville's Complete Streets policy is to bring all of these policies together and address their mutual concerns. It accomplishes this by both applying the transportation policies in prioritizing Complete Streets projects and by using the guidelines of these policies during the design and construction of projects.

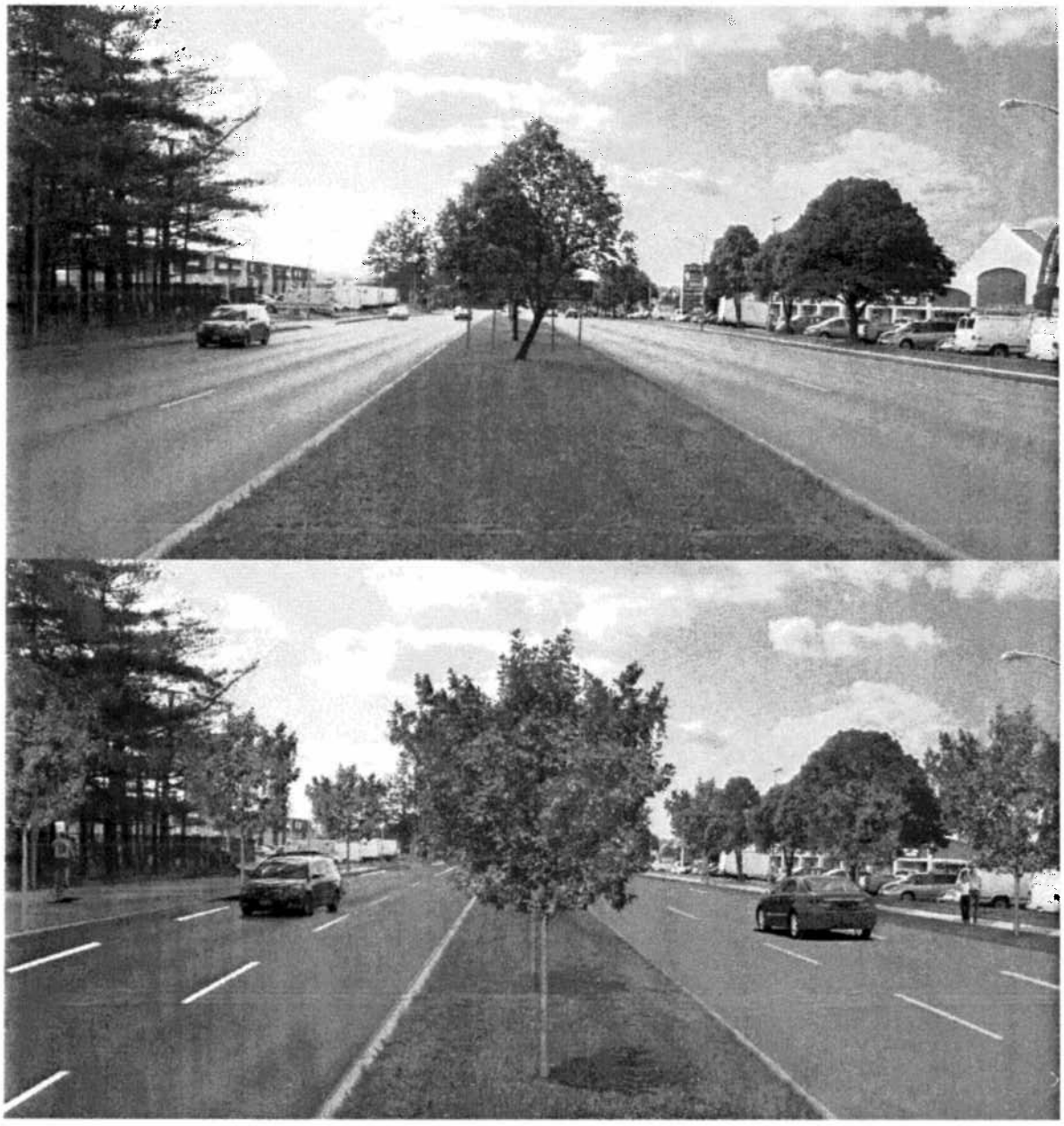
II. Policy Statement

The Complete Streets policy of the "City of Rockville" is developed to provide guidance for its residents, decision makers, planners and designers to ensure that multimodal elements are incorporated into all transportation improvement projects.

- New construction and re-construction roadway projects in the City shall accommodate users of all ages and abilities including pedestrians, bicyclists, transit users, motorists and adjacent land users.
- Roadway projects shall adhere to the most recent City approved:
    - Comprehensive Master Plan,
    - Standards and Details for Construction,
    - Guidelines for Neighborhood Traffic Management,
    - Bikeway Master Plan,
    - Pedestrian Policies,
    - Comprehensive Transportation Review,
    - Sidewalk Prioritization Policy, and
    - Other applicable transportation policies.
- Roadway projects shall respect the character of the community it is serving and preserve the environmental, scenic, aesthetic, and historic resources of the area.
- Roadway projects shall include a project description that provides information about the City right-of-way, public support for the improvement, and the potential environmental impacts of improvements.
- Roadway projects shall follow an open and transparent public engagement process during the planning, design and development of complete street projects.
- Roadway projects shall be funded through the City's Capital Improvements Program, through developer projects and contributions, through federal and state grants, and through revenues generated through the City's speed camera program.

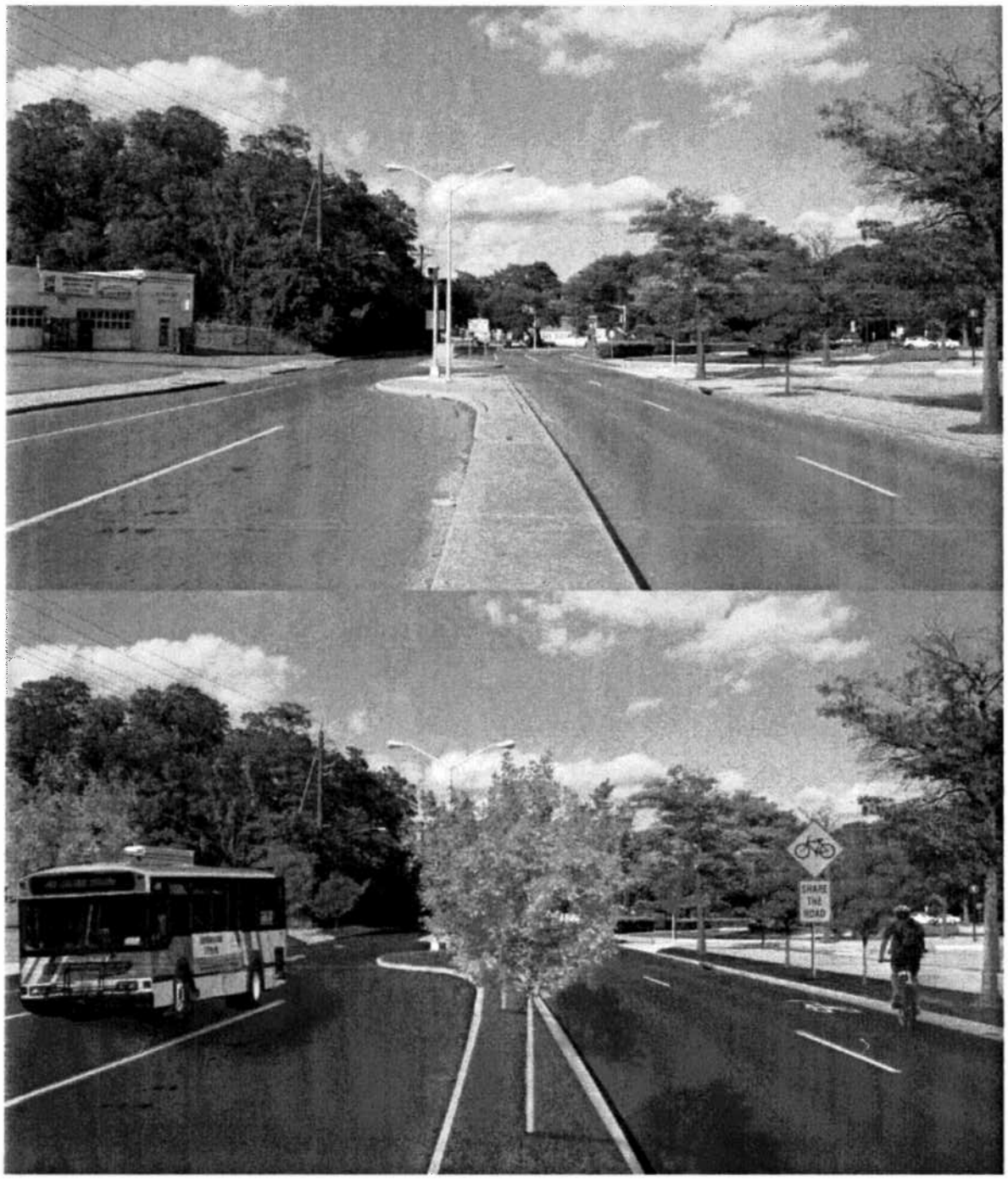
- Exceptions to the policy or exemptions from the policy shall be approved by the City Manager and must be documented with supporting data that indicates the basis for the decision.

III. Potential Complete Streets Outcomes



Example 1: East Gude Drive. Modifications include widening a shared pedestrian and bicycle path, widening the sidewalk, adding landscaped buffers, and narrowing and landscaping the median.

Example 2: South Stonestreet. Modifications include adding bicycle lanes and markings, a sidewalk with buffer, and pavement markings.



Example 3: Park Road. Modifications include adding sidewalks with buffers, "Share the Road" signs, and "sharrow" markings, and landscaping the median.

IV. Implementation

To ensure that Complete Streets are successfully implemented in Rockville, roadway projects shall be prioritized by gauging the latent multimodal demand and the following criteria:

Priority A Streets

- Streets in the City's three transit oriented zones
- Streets in the Twinbrook Metro Performance District
- Streets in the Town Center Planning Area
- Streets in the Rockville Pike Corridor Area and MD 355 from the northern border of the Corridor Area to the Rockville City limit
- Streets included in the Bikeway Master Plan through-city orange and yellow routes
- Street segments or intersections on the top-ten list of pedestrian/bicycle accidents
- Streets adjacent to schools

Priority B Streets

- Streets containing a high proportion of bus ridership
- Streets within Comprehensive Planned Developments and linking Comprehensive Planned Developments to Metro Rail Stations
- Streets adjacent to high density residential areas zones

Priority C Streets

- Streets linking neighborhoods to schools
- Streets adjacent to Millennium Trail
- Streets linking neighborhoods to parks
- Streets linking neighborhoods to community centers

When balancing competing interests, design decisions should be made to provide the safe, convenient and comfortable choices for all users. The objectives while making these design decisions are (1) to develop a transportation infrastructure that provides

access for all appropriate modes of transportation and safety in equal measure for each mode of travel and (2) to ensure that transportation facilities fit their physical setting and preserve scenic, historic, aesthetic, community, and environmental resources to the extent possible.

In some cases, these design objectives can be achieved within the available right-of-way. In other cases, the cost-benefit of acquiring additional right-of-way needs to be analyzed. Sometimes, tradeoffs in user accommodation need to be made to preserve environmental or community resources located within or adjacent to the right-of-way. In these situations, the challenge is to provide access and safety for each mode of travel. In other situations, it will be necessary to modify environmental characteristics in order to provide a safe and accommodating facility.

V. Design Guidance

Once the purpose and need for a project is defined, determination should be made to provide the safe, convenient and comfortable accommodation of all users within the context of the project. This process should be aided by the input from the various stakeholders involved to achieve the goals of a "Complete Street". There are several different scenarios for providing Complete Streets within the City.

The first three cases describe roadway sections bounded by curb and sidewalk. These cases are most likely to be found in the more densely developed areas. The fourth case is for sparsely developed areas or some residential areas where pedestrians and bicycle activity may be infrequent or purely recreational. All four descriptive cases are not intended to be "typical sections" applied to roadways without regard for travel speeds, vehicle mix, adjacent land use, traffic volumes, and other factors since application of "typical sections" can lead to inadequate user accommodation (underdesign) or superfluous width (overdesign). Typical sections also leave little room for judgment reflecting the purpose and context of individual projects and can oversimplify the range of values that may be selected for each element of the cross-section.

Case 1: Separate Accommodation for All Users

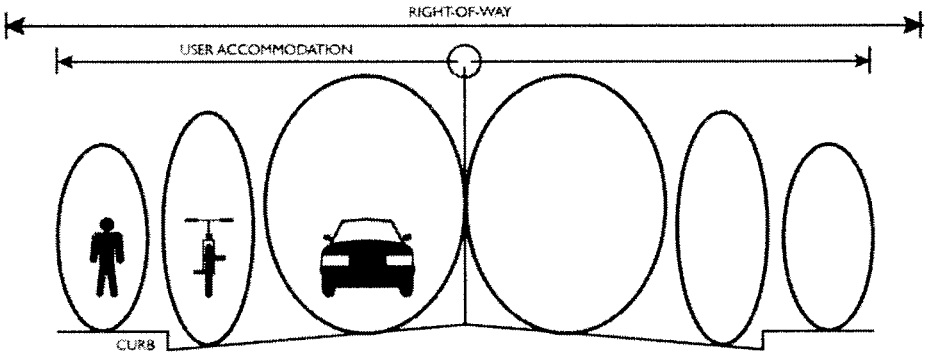
Case 1 provides the maximum separate accommodation for all modes of travel, as illustrated in Exhibit 1. This is often the preferred option in terms of providing safe, convenient, and comfortable travel for all users. It is usually found in areas of moderate to high density with curbed roadways.

Case 1 provides for the maximum separation of users, which can provide the highest level of safety and comfort for all users in areas with high levels of activity or where large speed differentials between the motorized and non-motorized modes are present. Case 1 usually

requires the most width. In locations where the speed differential between different roadway users is small, or overall activity is low, Case 1 may not be necessary to safely accommodate all users. However, in some instances, this case might be achieved by reallocating space within an existing roadway, thus eliminating potential impacts to the roadside environment.

This case might be considered in a wide variety of conditions including: areas with moderate to high pedestrian and bicycle volumes; areas with moderate to high motor vehicle speeds and traffic volumes; and areas without substantial environmental or right-of-way constraints.

Exhibit 1 - Case 1: Separate Accommodation For All Users



In Case 1, pedestrians are provided with a sidewalk separated from the roadway by a raised curb and preferably a landscaped buffer. The clear width of the sidewalk should be sufficient to allow pedestrians or wheelchair users to pass without interfering with each other's movement (preferred 5 feet sidewalk width excluding the curb and clear from items along the sidewalk such as fire hydrants, signs, trees and utility poles). It should be noted that the City's preferred width for sidewalks is 5 feet, however, in certain circumstances where 5 feet is not available, the City will refer to the American with Disabilities Act guidelines. Sidewalks should be provided on both sides of the street unless there is a condition that suggests that a sidewalk is not needed on one side of the street. This might happen, for example, if there is physical impediment that would preclude development on one side of the street, such as a stream or mature old trees.

Provision of a striped bicycle lane or shoulder suitable for bicycle use (5 feet preferred) encourages cyclists to use the roadway. The bicycle lane/shoulder also provides for additional separation between motor vehicle traffic and pedestrians. If on-street

parking is present, the bicycle lane should be at least 5 feet wide so that the cyclist is provided with an additional buffer along the parked cars.

Motor vehicles are accommodated within travel lanes wide enough to eliminate encroachment by wider vehicles on either the adjacent bicycle lane or on the opposing motor vehicle travel lane. In addition to providing space for bicycles, shoulders also accommodate emergency stopping, maneuvering, and other functions. Where on-street parking is provided, shoulders or bicycle lanes should be maintained between on-street parking and the travel lane.

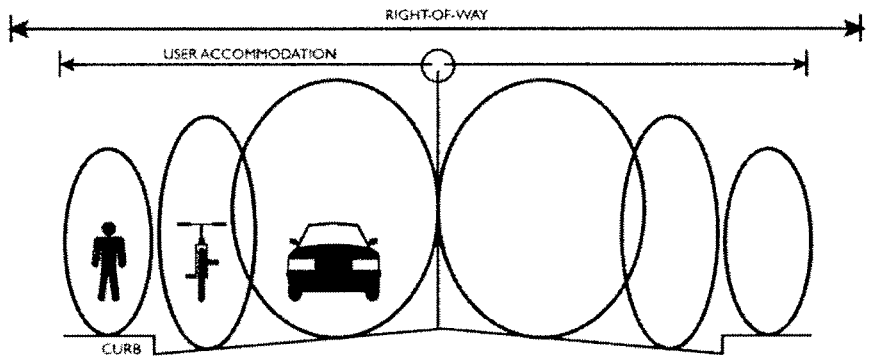
Case 2: Partial Sharing for Bicycles and Motor Vehicles

There are instances in which the width necessary to provide accommodation for case 1 is not available. There are also instances where some sharing and overlap between bicyclists and motor vehicle traffic is acceptable to achieve other environmental or design objectives. Case 2 describes an approach to multimodal accommodation in these situations and is illustrated in Exhibit 2.

Case 2 is common in areas of moderate to high density, where curbed roadway sections and separate sidewalks are provided.

Pedestrians are provided with a sidewalk separated from the roadway by a raised curb and preferably a landscaped buffer, increasing the safety and comfort of the pedestrian. The clear width of the sidewalk should be sufficient to allow pedestrians or wheelchair users to pass without interfering with each other's movement (5 feet preferred excluding the curb and clear of other roadside obstructions).

Exhibit 2 - Case 2: Partial Sharing for Bicycles and Motor Vehicles



In Case 2, there is some overlap between the spaces provided for bicycle use and that provided for motor vehicle travel. Signs or pavement markings indicating that the roadway is shared between cyclists and motor vehicles are appropriate for Case 2 roadways.

This type of accommodation is often used in areas with low motor vehicle speeds, low to moderate motor vehicle traffic volumes, and areas of environmental or right-of-way constraint where a smaller cross-section is necessary.

The designer should carefully consider the allocation of width to travel lanes and bicycle lanes/shoulders to provide the best balance of accommodation between bicycles and motor vehicles. In many instances, on-street parking will also be provided and additional width may be needed to reduce conflicts between bicycles and the adjacent parking. There are different possible configurations of lanes and shoulders possible in Case 2, but all feature some overlap in the space needed by bicyclists and motor vehicles:

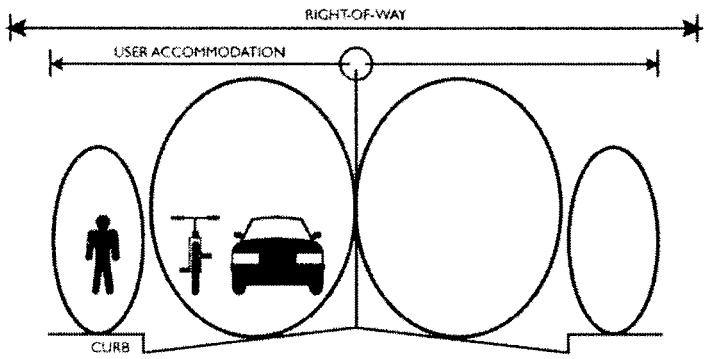
- Typical travel lanes combined with narrow shoulders (i.e. 11 to 12-foot lanes with 2 to 3-foot shoulders) provide maneuvering width for truck and bus traffic within the travel lane; however, bicyclists may be forced to ride along and over the pavement markings.
- Narrow travel lanes combined with wide shoulders (i.e. 10 to 11-foot lanes with 4 to 5-foot shoulders) provide greater separation between motor vehicle and bicycle traffic, but may result in motor vehicle traffic operating closer to the center line or occasionally encroaching into the opposing travel lane.

Wide curb lanes have also been used in Case 2; however, studies have shown that motorists and bicycles are less likely to conflict with each other and motorists are less likely to swerve into oncoming traffic as they pass a bicyclist when shoulder striping is provided.

Case 3: Shared Bicycle/Motor Vehicle Accommodation

In Case 3, the accommodation of bicycles and motor vehicles is shared and separate pedestrian accommodation is maintained as illustrated in Exhibit 3. Case 3 is most likely to be found in the most densely developed areas where right-of-way is most constrained. It is also applicable to most residential streets where speeds and traffic volumes are low.

Exhibit 3 - Case 3: Shared Bicycle/Motor Vehicle Accommodation



Pedestrians are provided with a sidewalk separated from the roadway by a raised curb and preferably a landscaped buffer, increasing the safety and comfort of walking along this roadway. The clear width of the sidewalk should be sufficient to allow pedestrians or wheelchair users to pass without interfering with each other's movement (5 feet preferred excluding the curb and sidewalk clear of other roadside obstructions).

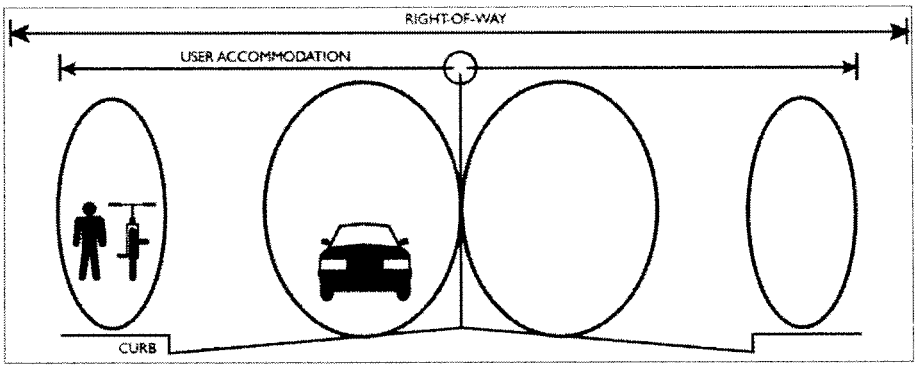
In Case 3, one lane is provided for joint use by motor vehicles and bicycles. This type of accommodation is used in the following conditions: areas with low to moderate motor vehicle traffic volumes; low motor vehicle speeds; and areas of severe right of way constraint where only a minimum pavement section is feasible.

Signs and pavement markings indicating that the roadway is shared between cyclists and motor vehicles should be provided for Case 3 roadways. On-street parking may be provided on these roadways and separate shoulders or bicycle lanes are not available.

Case 4: Shared Bicycle/Pedestrian Accommodation

In sparsely developed areas or some residential areas pedestrians and bicycle activity may be infrequent or purely recreational. This case is illustrated in Exhibit 4.

Exhibit 4 - Case 4: Shared Bicycle/Pedestrian Accommodation



In these areas, pedestrians and cyclists are often accommodated on an off-road shared use path. This type of accommodation may be appropriate for areas with infrequent pedestrian activity. In areas with higher pedestrian volumes (either current or anticipated), the pedestrian accommodation described in Cases 1, 2, and 3 is desirable. The path should provide the same connectivity as the roadway but can be set back from the roadway and its route can deviate around sensitive environmental areas. A shared-use path should be paved and at least be 8-feet wide. If the right-of-way permits, wider shared-use paths should be considered as well as "dual facilities" where roadways have both a shared-use path and an on-road bicycle facility.

VI. Design Elements

Sidewalks

Pedestrian accommodation should be consistent with the project context, including current or anticipated development density, roadway characteristics, right-of-way dimensions and availability, and community plans. The preferred width for sidewalks is 5 feet, however, in certain circumstances where 5 feet is not available, the City will refer to the American with Disabilities Act guidelines. Wider sidewalks are desirable where there are high pedestrian volumes and where there is no buffer between high speed and high volume roadways. Sidewalks commonly accommodate street furniture, which includes items such as, trees, utilities, streetlights, parking meters, bicycle parking, benches, and refuse barrels. Additionally, sidewalks often abut fences, building edges, or vegetation along their outside edge. These elements influence the required width

necessary to accommodate pedestrians, as pedestrians tend to "shy" from these obstructions. The designer should consider the desired location for these sidewalk features and, where they exist, the designer should provide appropriate offsets (or shy distances) to the pedestrian path.

Sidewalk widths of 6 -10 feet are preferred and should be considered in *Priority Areas A* where higher pedestrian activity is anticipated. In the town center areas and areas where very high pedestrian activity is anticipated, designers should try to provide wider sidewalks. If possible, a landscape buffer should also be provided between vehicular traffic and sidewalk to create a separation from motor vehicles and increase the comfort and safety of pedestrians. Landscape buffers are usually 4-8 feet wide. On-street parking, shoulders or bike lanes can also act as buffers. One way to achieve additional width for the sidewalk area is by paving the landscape area with tree pits, especially where on-street parking is provided. Narrowing travel lanes or reducing the number of through lanes where possible can also provide additional width.

Priority Areas B consists of streets with higher bus ridership and high-density residential areas where moderate pedestrian activity is anticipated. Sidewalk widths of 5-8 feet are preferred in these areas to accommodate for group walking and also to provide waiting areas near bus stops. Landscape buffers of 4-6 feet should be provided in these areas.

Low to moderate pedestrian activity is anticipated in *Priority Areas C* and the preferred width for sidewalks is 5 feet.

Bicycles

Bicycle accommodation should also be consistent with the project's context, roadway characteristics, right-of-way, community plans, and the level of service provided for the bicyclist. The designer should ensure that bicycle accommodation is based on anticipated development and community plans.

In addition to determining the type of accommodation for bicyclists, the designer should include other design features that improve the safety and comfort of the roadway for bicyclists. For example, if motor vehicle speeds are too high, the designer should consider selecting a lower motor vehicle design speed to increase the comfort and safety of the facility for bicycles. Additionally, the designer could consider narrowing motor vehicle lanes to provide wider shoulders. Some bicyclists feel more comfortable riding on the roadway surface, while others feel more comfortable separated from traffic on a shared-use path. As a result, the designer should consider a variety of configurations, both on- and off-road so that different levels of bicyclists are accommodated.

Bicycle lanes are typically 5-6 feet wide. A 5-foot bicycle lane is preferred for most conditions. On roadways with higher speeds or higher volumes of trucks and buses (30 or more per hour) the desirable bicycle lane width is 6 feet. Bicycle lanes wider than 6 feet are generally not used since they may encourage inappropriate use by motor vehicles. Designers should avoid combining minimum travel lane widths and minimum bike lane widths.

Bicycle lanes should be provided consistent with the Bikeway Master Plan. In areas where right-of-way is constrained and high bicycle usage is anticipated such as in *Priority Areas A*, it is prudent to provide bicycle facilities by eliminating non-critical design elements. For example, it may be desirable to convert a four-lane undivided street to a three-lane street with left-turn lanes to provide bicycle lanes rather than narrowing all of the other design elements to retain four lanes, if traffic capacity allows. For streets that have parking on both sides of the street, it may be desirable to eliminate parking on one side of the street and use that space to provide bicycle lanes in both directions.

For streets in *Priority Areas B* where moderate to high speeds and volumes are expected, shared-use paths may be provided to accommodate both pedestrians and bicycles.

Streets in the *Priority Areas C* are typically in the residential areas. In cases of low speed, low to moderate traffic volumes, and low occurrence of trucks and buses, the shared lanes may be adequate to support bicycling. Before deciding to provide shared lanes as bicycle accommodation, the designer should be certain that the traffic volumes and motor vehicle speeds will be low enough so that all types of bicyclists can comfortably use the roadway.

Parking

On-street parking serves several critical needs of adjacent land uses especially in urban town center areas and typically supplements the off-street parking supply. On-street parking also acts as a buffer between the sidewalk and travel lanes and provides additional comfort to pedestrians. 8-foot parking lanes (including the gutter pan) are generally suitable for all conditions. Parking lanes should not be narrower than 7 feet wide. Off-peak use of a curbside travel lane may be permitted on some streets.

Travel Lanes

Travel lanes are the component of the roadway cross-section that serves motor vehicle travel, or in some cases, joint use. In most cases, the travel lanes are the widest component of the roadway cross-section. The number of lanes in each direction should be determined based on the transportation demand estimates and appropriate level

of service determined in the project planning process. In some instances it may be possible to reduce the number of travel lanes to provide sidewalks, landscape buffers, bicycle lanes, and crossing islands.

The width of travel lanes is selected through consideration of the roadway context, approach to multimodal accommodation, and the physical dimensions of vehicles, speeds, and other traffic flow characteristics. The normal range of design lane width is between 10 and 12 feet. Travel lanes of 10 and 11 feet are generally preferred in the *Priority Areas* A where additional width could be used to provide for wider sidewalks and bicycle lanes. Travel lanes between 11 and 12 feet in width are desirable for roadways in the *Priority Areas B and Priority Areas C,* where higher design speeds, higher traffic volumes, or higher truck and bus activity is anticipated.

Travel lanes narrower than 10 feet are generally not recommended. Lanes wider than 12 feet are sometimes used where shoulders are not provided, such as in suburban high-density areas, town centers, and urban areas. Another application of wide lanes is in areas with high driveway density. This application provides more maneuvering room for drivers entering or exiting driveways, or in areas of limited sight distance. In these cases wide lanes are typically 12 to 14 feet wide. However, if more than 12 feet is available, it is often preferable to stripe a shoulder.

Landscape Panel

Landscape panels provide for a defined roadway edge and acts as a buffer between the traveled way and pedestrians in the sidewalk. Landscape panels typically also accommodate street trees, utility poles, street lights, fire hydrants, traffic signs, holding areas for plowed snow, and other appurtenances. This area can also be used to achieve stormwater and air quality benefits and lower operating speeds in some cases. Landscape panels are usually 4-8 feet wide, however, when street trees are provided, a minimum of 6 feet is preferred from the edge of the traveled way. Designers should provide adequate clear zone dimensions, provided by AASHTO, to account for errant vehicles.

Intersections and Transitions

In order to achieve the objectives of the Complete Streets Policy, intersections must be designed to accommodate reasonable expectations and to provide easy transitions for all roadway users including pedestrians, bicycles, cars, transit users, buses, and trucks. Pedestrians and walking bicyclists expect to cross the street safely with minimum delay. Drivers of large vehicles expect to maneuver turns with minimum difficulty. Riding bicyclists and drivers of motor vehicles expect to safely pass through an intersection with minimum delay. Well-designed, multimodal intersections accommodate all users and also meet the community's objectives and priorities.

Smooth roadway transitions and multimodal level of service methods must be used when reviewing intersection designs. Intersection widening for additional turn lanes should be balanced against potential impacts to pedestrians and bicyclists. In addition, as roadway users pass through an intersection, appropriate connections between transportation facilities, such as continuity of bicycle lanes and paths, should be provided. Intersection crossing features for pedestrians and bicyclists, such as pedestrian push buttons, should be designed to allow safe and convenient travel through the intersection, taking into consideration the design of the transportation facilities approaching the intersection. Proper sight triangles must be provided to minimize conflicts between different roadway users. Particular care should be given to ensure that intersections are fully accessible to the disabled and hearing and sight impaired.

Additional Information

In addition to the information provided above, all new construction and reconstruction roadway projects must be compliant to the information provided in:

- Comprehensive Master Plan,
- Standards and Details for Construction,
- Guidelines for Neighborhood Traffic Management,
- Bikeway Master Plan,
- Pedestrian Policies,
- Comprehensive Transportation Review,
- Sidewalk Prioritization Policy, and
- Other applicable transportation policies and ordinances.